WHAT IS CLAIMED IS:

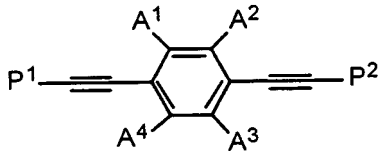
1. A compound represented by the formula (1) having a phenylacetylene structure,

wherein difference $\Delta E$ in energy of the highest occupied molecular orbital (HOMO) of parts of the formula (1) each represented by the formula (1-1), (1-2) or (1-3) calculated by method of molecular orbitals satisfies the following formula:

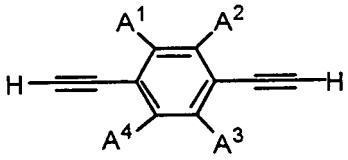
$\Delta E = E_{1-1} - (E_{1-2} + E_{1-3})/2 \geq 0.3$ electronvolt

wherein $E_{1-1}$, $E_{1-2}$, and $E_{1-3}$ denote the HOMO energy of corresponding parts represented by the formulae (1-1), (1-2), and (1-3), respectively, of the formula (1) calculated by the method of molecular orbitals, and

wherein polarizability anisotropy $\Delta\alpha$ of a molecule represented by the formula (1) calculated by said method is not lower than 500 atomic units:




(1)




(1-1)


(1-2)

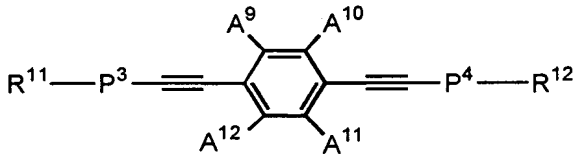

(1-3)

wherein $A^1$ to $A^4$ each independently stands for a hydrogen

atom, a fluorine atom, or an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom; and $P^1$ and $P^2$ may have any chemical structures as long as $P^1$ and $P^2$ satisfy said conditions of the HOMO energy and polarizability anisotropy.

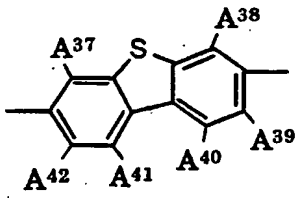
2. The compound of claim 1, wherein at least one of $P^1$ and $P^2$ has an acrylate or methacrylate group on its terminal.

3. A compound represented by the formula (2) having a phenylacetylene structure:

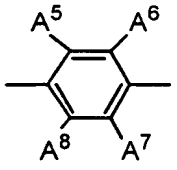


(2)

wherein $A^9$ to $A^{12}$ each independently stands for a hydrogen atom, a fluorine atom, an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom; $P^3$ and $P^4$ each stands for the formula (2-1) or (2-2), with at least one of $P^3$ and $P^4$ standing for the formula (2-1),



(2-1)

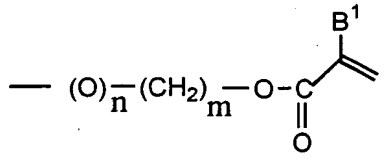


(2-2)

wherein $A^{37}$ to $A^{42}$ in the formula (2-1) and $A^5$ to $A^8$ in the formula (2-2) each independently stands for a hydrogen atom, a fluorine atom, or an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom;

$R^{11}$ and $R^{12}$ each independently stands for a hydrogen atom, a fluorine atom, a cyano group, $-SF_5$, -NCS, a 4-$R^{23}$-(cycloalkyl) group, a 4-$R^{23}$-(cycloalkenyl) group, an $R^{24}$-(O)q group, or a group represented by the formula (3),

wherein $R^{23}$ stands for a hydrogen atom, or a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom, $R^{24}$ stands for a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom, or a straight or branched alkenyl or alkynyl group having 3 to 12 carbon atoms optionally substituted with at least one fluorine atom, q denotes 0 or 1,



(3)

wherein n denotes 0 or 1, and m denotes an integer of 1 to 20, $B^1$ stands for a hydrogen atom or a methyl group,

when both $R^{11}$ and $R^{12}$ stand for a group represented by the formula (3), n, m, and $B^1$ in one group of the formula (3) may be the same as or different from those of the other.

4. The compound of claim 3, wherein at least one of $R^{11}$ and

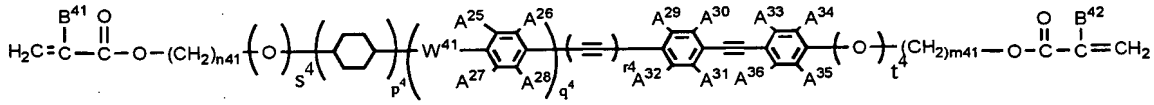
$R^{12}$ in the formula (2) stands for a group represented by the formula (3).

5. The compound of claim 4, wherein when all of $A^9$ to $A^{12}$ in the formula (2) each stands for an alkyl group, the number of carbon atoms in each group is not less than two.

6. A liquid crystal composition comprising at least one compound represented by the formula (1) of claim 1.

7. A liquid crystal composition comprising at least one compound represented by the formula (2) of claim 3.

8. The liquid crystal composition of claim 6, further comprising at least one liquid crystalline compound represented by any of the formula (4) to (7):

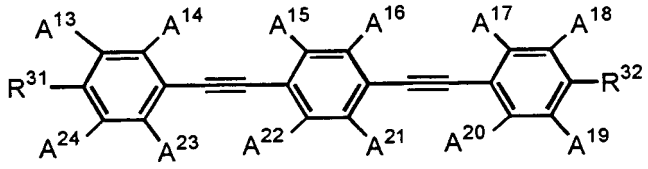


(4)

wherein $A^{25}$ to $A^{36}$ each independently stands for a hydrogen atom, a fluorine atom, or an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom; $B^{41}$ and $B^{42}$ each stands for a hydrogen atom or a methyl group; $p^4$, $q^4$, $r^4$, $s^4$, and $t^4$ each denotes 0 or 1, provided that when $q^4$ is 0, at least one of $A^{29}$ to $A^{36}$ stands for an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom; $m^{41}$

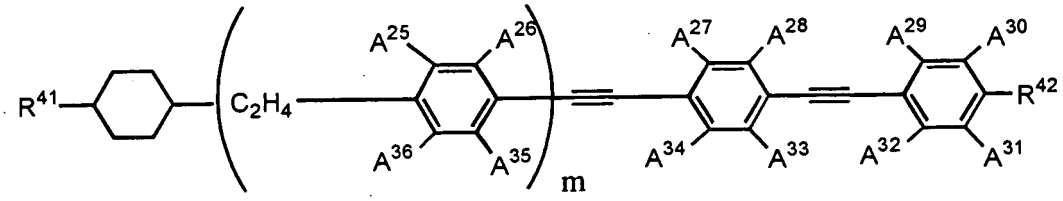
and $n^{41}$ each denotes an integer of 0 to 14, provided that when $s^4$ is 1, $n^{41}$ is not 0, and when $t^4$ is 1, $m^{41}$ is not 0;

$W^{41}$ stands for a single bond, $-CH_2CH_2-$, or $-C\equiv C-$;



(5)

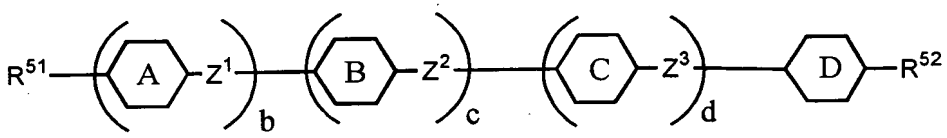
wherein $A^{13}$ to $A^{24}$ each independently stands for a hydrogen atom, a fluorine atom, an alkyl or alkoxy group having 1 to 14 carbon atoms optionally substituted with at least one fluorine atom, with at least one of $A^{13}$ to $A^{24}$ standing for an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom; $R^{31}$ and $R^{32}$ each independently stands for a hydrogen atom, a fluorine atom, a cyano group, $-SF_5$, -NCS, a 4-$R^{33}$-(cycloalkyl) group, a 4-$R^{33}$-(cycloalkenyl) group, or an $R^{34}$-(O)$q^{31}$ group, wherein $R^{33}$ stands for a hydrogen atom, or a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom, $R^{34}$ stands for a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom, and $q^{31}$ denotes 0 or 1;



(6)

wherein $A^{25}$ to $A^{36}$ each independently stands for a hydrogen

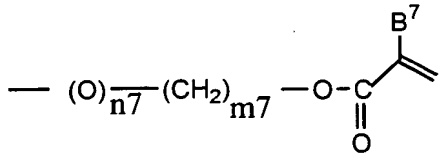
atom, a fluorine atom, or an alkyl group having 1 to 10 carbon atoms; m denotes 0 or 1; $R^{41}$ stands for a hydrogen atom or a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom; $R^{42}$ stands for $R^{41}$, a fluorine atom, a cyano group, a 4-$R^{43}$-(cycloalkyl) group, a 4-$R^{43}$-(cycloalkenyl) group, or an $R^{44}$-(O)$q^{41}$ group, wherein $R^{43}$ stands for a hydrogen atom or a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom, $R^{44}$ stands for a straight or branched alkyl group having 1 to 12 carbon atoms optionally substituted with at least one fluorine atom, and $q^{41}$ denotes 0 or 1;



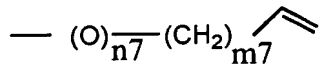

(7)

wherein Rings A, B, C, and D each independently stands for 1,4-phenylene, 1,4-cyclohexylene, 1,4-cyclohexenylene, 4,1-cyclohexenylene, 2,5-cyclohexenylene, 5,2-cyclohexenylene, 3,6-cyclohexenylene, 6,3-cyclohexenylene, 2,5-pyrimidinediyl, 5,2-pyrimidinediyl, 2,5-pyridinediyl, 5,2-pyridinediyl, 2,5-dioxanediyl, or 5,2-dioxanediyl, and at least one hydrogen atom on any of Rings A, B, C, and D may be substituted with a fluorine atom; $R^{51}$ and $R^{52}$ each stands for a hydrogen atom, a fluorine atom, a fluoromethyl group, a difluoromethyl group, a trifluoromethyl group, a fluoromethoxy group, a difluoromethoxy group, a trifluoromethoxy group, a cyano

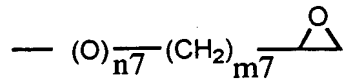
group, an alkyl group having 1 to 12 carbon atoms, an alkenyl group having 3 to 12 carbon atoms, an alkynyl group having 3 to 12 carbon atoms, an alkoxy group having 1 to 12 carbon atoms, an alkenyloxy group having 3 to 12 carbon atoms, an alkynyloxy group having 3 to 12 carbon atoms, an alkoxyalkyl group having 2 to 16 carbon atoms, an alkoxyalkenyl group having 3 to 16 carbon atoms, or a group represented by the formula (7-1), (7-2), or (7-3), wherein $m^7$ denotes an integer of 1 to 12, $n^7$ denotes 0 or 1, wherein at least one methylene group of said alkyl, alkenyl, or alkynyl group may be replaced with an oxygen, sulfur, or silicon atom, and said groups may be straight or branched; $Z^1$, $Z^2$, and $Z^3$ each independently stands for -COO-, -OCO-, $-OCH_2-$, $-CH_2O-$, an alkylene group having 1 to 5 carbon atoms, an alkenylene group having 2 to 5 carbon atoms, an alkynylene group having 2 to 5 carbon atoms, or a single bond; b, c, and d each independently denotes 0 or 1, with b + c + d ≧ 1:



(7-1)



(7-2)



(7-3).

9. The liquid crystal composition of claim 7, further comprising at least one liquid crystalline compound

represented by any of the formulae (4) to (7).

10. A polymer obtained by polymerization of at least one compound of claim 2.

11. A polymer obtained by polymerization of at least one compound of claim 4.

12. A polymer obtained by polymerization of the liquid crystal composition of claim 6.

13. A polymer obtained by polymerization of the liquid crystal composition of claim 7.

14. A liquid crystal composition comprising:

at least one compound selected from the group consisting of the compound of claim 2, the polymer of claim 10, and the polymer of claim 12, and

at least one monomer compound other than the compound of claim 2, selected from the group consisting of methacrylate esters, acrylate esters, epoxy, and vinyl ethers.

15. The liquid crystal composition of claim 14, further comprising at least one liquid crystalline compound represented by any of the formulae (4) to (7).

16. A polymer obtained by polymerization of the liquid crystal composition of claim 14.

17. A liquid crystal composition comprising:

at least one compound selected from the group consisting of the compound of claim 4, the polymer of claim 11, and the polymer of claim 13, and

at least one monomer compound other than the compound of claim 4, selected from the group consisting of methacrylate esters, acrylate esters, epoxy, and vinyl ethers.

18. The liquid crystal composition of claim 17, further comprising at least one liquid crystalline compound represented by any of the formulae (4) to (7).

19. A polymer obtained by polymerization of the liquid crystal composition of claim 17.

20. An optically anisotropic product produced with at least one material selected from the group consisting of the compound of claim 2, the polymer of claim 10, the polymer of claim 12, the liquid crystal composition of claim 14, and the polymer of claim 16.

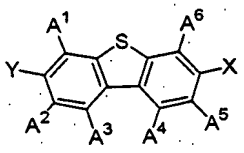
21. An optically anisotropic product produced with at least one material selected from the group consisting of

the compound of claim 4, the polymer of claim 11, the polymer of claim 13, the liquid crystal composition of claim 17, and the polymer of claim 19.

22. An optical or liquid crystal element produced with at least one material selected from the group consisting of the compound of claim 2, the polymer of claim 10, the polymer of claim 12, the liquid crystal composition of claim 14, and the polymer of claim 16.

23. An optical or liquid crystal element produced with at least one material selected from the group consisting of the compound of claim 4, the polymer of claim 11, the polymer of claim 13, the liquid crystal composition of claim 17, and the polymer of claim 19.

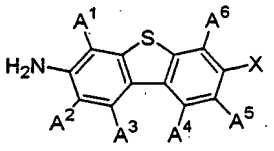
24. A dibenzothiophene compound represented by the formula (A-1):




(A-1)

wherein $A^1$ to $A^6$ each independently stands for a hydrogen atom, a fluorine atom, an alkyl or alkoxy group having 1 to 10 carbon atoms optionally substituted with at least one fluorine atom, X stands for a halogen atom, and Y stands for a halogen atom or a hydroxyl group.

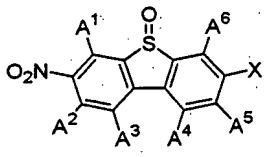
25. A dibenzothiophene compound represented by the formula (A-2):



(A-2)

wherein $A^1$ to $A^6$ and X mean the same as those in the formula (A-1).

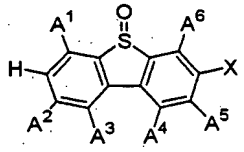
26. A dibenzothiophene oxide compound represented by the formula (A-3):



(A-3)

wherein $A^1$ to $A^6$ and X mean the same as those in the formula (A-1).

27. A dibenzothiophene oxide compound represented by the formula (A-4):



(A-4)

wherein $A^1$ to $A^6$ and X mean the same as those in the formula (A-1).

28. A method for producing the dibenzothiophene compound of claim 24 comprising:

diazotizing a dibenzothiophene compound represented by

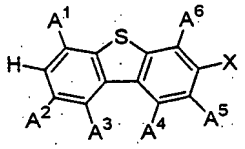
the formula (A-2) to obtain a diazonium salt, and

decomposing said diazonium salt in the presence of an anion corresponding to Y in the formula (A-1).

29. A method for producing the dibenzothiophene compound of claim 25 comprising reducing a dibenzothiophene oxide compound represented by the formula (A-3).

30. A method for producing the dibenzothiophene oxide compound of claim 26 comprising nitrating a dibenzothiophene oxide compound represented by the formula (A-4).

31. A method for producing the dibenzothiophene oxide compound of claim 27 comprising oxidizing a dibenzothiophene compound represented by the formula (A-5):




(A-5)

wherein $A^1$ to $A^6$ and X mean the same as those in the formula (A-1).